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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,063	10/05/2005	Koichiro Oiyama	2005_1432A	6099

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WENDEROTH, LIND & PONACK, L.L.P.  
2033 K STREET N. W.  
SUITE 800  
WASHINGTON, DC 20006-1021

EXAMINER
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LEE, GILBERT Y

ART UNIT	PAPER NUMBER
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3673

MAIL DATE	DELIVERY MODE
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09/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/552,063	Applicant(s) OIYAMA ET AL.	
	Examiner Gilbert Y. Lee	Art Unit 3673	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. The amendment filed 7/9/07 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to claim 7, "formed so as to extend linearly under a non-pressure condition and be" is not supported in the specification. Page 14, Line 27-Page 15, Line 22 only disclose "the lip part...extends and comes into narrow-width contact with the rotational shaft X while being supported by the supporting part...of the supporting...when high pressure is not applied to the lip part".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. (US Pub. No. 2001/0030398 A1) in view of Bertin (US Patent No. 4,167,981)

Regarding claim 7, the Hosokawa et al. reference discloses a lip-type seal (Fig. 1) for sealing an outer periphery of a shaft (32) supported by a predetermined housing (31), said lip-type seal comprising:

an elastic seal ring (5, Para. [0036]) including an annular fitted part (e.g. 5a) and a lip part (13), said annular fitted part to be fitted into a hole (Fig. 1) of said housing, said lip part extending from said fitted part inwardly in a radial direction in the shape of a substantially conical ring (Fig. 1) that is to be brought into contact with the shaft (Fig. 1); and

a support ring 912) including an annular joint part (e.g. part in contact with element 1), and an annular supporting part (e.g. 12a), the annular supporting part defining a hole (Fig. 1) through which the shaft is to pass (Fig. 1), extending from a side of said annular joint part to a middle region of said lip part (Fig. 1), and supporting said lip part, from inwardly of said lip part, in the radial direction (Fig. 1),

wherein said lip part is formed so as to extending linearly under a non-pressure condition (Fig. 1) and be tapered in cross section (Fig. 1) in cross section from an area at which non-contact with said annular supporting part begins toward an end of said lip part (Fig. 1).

However, the Hosokawa et al. reference fails to explicitly disclose a value of  $T_0/T_1$  falling within .3. to .7, with  $T_1$  being a thickness of said lip part at the area at which non-contact with said annular supporting part begins, and  $T_0$  being a thickness of said end of said lip part.

The Bertin reference, a lip seal for a shaft, discloses a value of  $T_0/T_1$  being of the order of 1 to 2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a value of  $T_0/T_1$  falling within .3 to .7 to the Hosokawa et al. reference in view of the teachings of the Bertin reference in order to reduce a pressure drop at the contact ridge (Bertin, Col. 1, Lines 43-48).

Regarding claim 13, the Hosokawa et al. reference, as modified in claim 7, discloses an end of said annular supporting part being bent (Fig. 1) away from said lip part so as to define the area at which non-contact with said annular supporting part begins (Fig. 1).

Regarding claim 14, the Hosokawa et al. reference, as modified in claim 7, discloses the lip part being 85 degrees to 98 degrees in material hardness according to JIS hardness (Para. [0052]).

4. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. '398 in view of Bertin as applied to claims 7, 13, and 14 above, and further in view of Hosokawa et al. (US Patent No. 6,367,811).

Regarding claim 8, the modified Hosokawa et al. '398 reference discloses the invention substantially as claimed in claim 7.

However, the modified Hosokawa et al. '398 reference fails to explicitly disclose a value  $(D1-D0)/D1$  falling within .03 to .15, with D0 being an inner diameter of said end part of said lip part, and D1 being an outer diameter of the shaft.

The Hosokawa et al. '811 reference, a rotation shaft seal, discloses  $(D1-D0)/D1$  falling within 7% (Col. 17, Lines 16-26).

It would have been obvious to one of ordinary skill in the art at the time of invention to provide  $(D1-D0)/D1$  falling within .03 to .15 to the modified Hosokawa et al. '398 reference in view of the teachings of the of the Hosokawa et al. '811 reference in order to ensure the lip end portion sufficiently contacts the rotation shaft when the lip portion receives pressure and to prevent fluid leaks (Hosokawa et al. '811, Col. 17, Lines 22-26).

Regarding claims 9 and 12, the Hosokawa et al. '398 reference, as modified in claim 8, discloses an end of said annular supporting part being bent (Hosokawa et al. '398, Fig. 1) away from said lip part so as to define the area at which non-contact with said annular supporting part begins (Hosokawa et al. '398, Fig. 1).

Regarding claims 10 and 11, the Hosokawa et al. '398 reference, as modified in claim 8, discloses the lip part being 85 degrees to 98 degrees in material hardness according to JIS hardness (Hosokawa et al. '398, Para. [0052]).

***Response to Arguments***

5. Applicant's arguments filed 9/19/07 have been fully considered but they are not persuasive.

With regards to the applicant's argument of the tapering of the Hosokawa et al. '398 reference, the argument is not persuasive because the tapering of the lip is clearly disclosed in the Figures.

With regards to the applicant's argument of the Bertin reference, the argument is not persuasive because the examiner is only relying the Bertin reference for the teaching of a ratio of a taper of a lip part and not a cupola. It is to be noted that the tapering of the Hosokawa et al. reference starts at a point in contact with support ring 12 and therefore the thickness e2 would equate to thickness T1 of the present invention. The motivation to combine the references is clearly stated in the rejection.

With regards to the applicant's argument of the linearly extending lip part, the argument is not persuasive because, as clearly shown in Fig. 1 of the Hosokawa reference '398, the lip part extends linearly on both top and bottom surfaces, as well as, the end surface.

With regards to the applicant's argument of the combination of the of the Hosokawa et al. '398 and the Bertin reference, the argument is not persuasive because the applicant argues that the technical ideas are different; however, the combination of the two references disclose the structural limitations of the claims and will be **capable of** functioning in the same manner as the present invention.

With regards to the applicant's argument of the Bertin reference being curve-formed, the argument is not persuasive because the examiner is only using the Bertin reference for the teaching of a ratio of the taper of a lip part.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

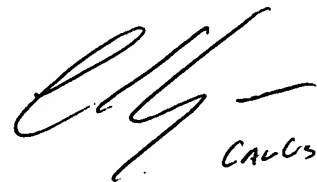


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL

September 19, 2007

  
CAUCS Logo  
Primary Examiner  
A43616

Patricia Engle  
Supervisory Examiner  
Tech. Center 3600